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Part VII

Department of Transportation

Federal Aviation Administration

14 CFR Part 39

Airworthiness Directives; Airbus Industries and McDonnell Douglas; Proposed Rules

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 88-NM-142-AD]

Airworthiness Directives; Airbus Industries Models A300 and A310; Boeing Models 707, 720, 727, 737, 747, 757, and 767; British Aerospace Models BAe 146 and BAC 1-11; Fokker Model F28; Lockheed Model L-1011; and McDonnell Douglas Models DC-8, DC-9 (Includes Models DC-9-80 Series and MD-88), and DC-10/KC-10 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of Proposed Rulemaking (NPRM).

SUMMARY: This notice proposes a new airworthiness directive (AD), applicable to certain transport category airplanes, which would require the installation of a visual annunciation of the loss of electrical power to the takeoff warning system installed on the airplane which would not require action by the flight crew to display the annunciation. This proposal is prompted by an accident where electrical power was lost to the takeoff warning system and the flight crew was not aware of it. This condition, if not corrected, could result in takeoff of an airplane in an unsafe takeoff configuration.

DATES: Comments must be received no later than February 21, 1989.

ADDRESS: Send comments on the proposal in duplicate to Federal Aviation Administration, Northwest Mountain Region, Transport Airplane Directorate, ANM-103, Attention: Airworthiness Rules Docket No. 88-NM-142-AD, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168.

FOR FURTHER INFORMATION CONTACT: Mr. Richard S. Saul, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Northwest Mountain Region, Los Angeles Aircraft Certification Office, 3229 East Spring Street, Long Beach, California 90806; telephone (213) 988-5342.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments specified above will be considered by the Administrator before taking action on the proposed rule. The proposals contained in this Notice may be changed in light of the comments received. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA/public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Availability of NPRM

Any person may obtain a copy of this Notice of Proposed Rulemaking (NPRM) by submitting a request to the FAA, Northwest Mountain Region, Transport Airplane Directorate, ANM-103, Attention: Airworthiness Rules Docket No. 88-NM-142-AD, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168.

Discussion: Investigation of an accident that occurred shortly after taking off, involving a McDonnell Douglas DC-9-82 series airplane, revealed that the airplane was not configured properly for takeoff. The takeoff warning system on the airplane, which is designed to alert the flight crew that the airplane is not configured properly for takeoff, failed to provide a warning of improper takeoff configuration.

The reason for this failure was determined to be loss of electrical power to the takeoff warning system portion of the Central Aural Warning System (CAWS). It was further determined that this loss of electrical power was caused by a failed, tripped, or intentionally opened circuit breaker. This condition, if not corrected, could result in takeoff of an airplane while in an unsafe configuration for takeoff.

As a result of its investigation of this accident, the National Transportation Safety Board (NTSB) recommended that the FAA require a modification of Model DC-9-80 series airplanes that would illuminate the existing CAWS "fail light" in the event of a CAWS input circuit electrical power loss.

In response to the preliminary findings as to the cause of the accident, the FAA established a special team to conduct a general review of takeoff warning systems. The team concentrated its review on large turbofan/turbojet transport airplanes manufactured by Airbus, Boeing, Lockheed, and McDonnell Douglas, since it considered the takeoff warning systems on these airplanes to be representative of the systems installed in the majority of transport category airplanes. The review noted that an unannounced electrical power loss to the takeoff warning system was not unique to the Model DC-9-82 airplane, and most other airplanes reviewed by the team were equally susceptible to such failures. Accordingly, the FAA has determined that it is necessary to expand the NTSB's recommendation to include certain additional large turbofan/turbojet transport airplanes certificated under Part 25 of the Federal Aviation Regulations (FAR).

Since this condition is likely to exist on other airplanes of these same type designs, an AD is proposed which would require the installation of a visual warning which will signal the loss of primary electrical power to the takeoff warning system, visible to the flight crew without requiring flight crew action to display it. The FAA proposes that this visual warning be installed within 12 months from the effective date of the final rule. This will provide manufacturers with sufficient time to design an installation and provide service information, and will provide operators sufficient time to install the visual warning. Operators may develop their own takeoff warning system electrical power loss visual warning installation, if they so desire.

Information collection requirements contained in this regulation have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96-511) and have been assigned OMB Control Number 2120-0056.

It is estimated that 3,699 airplanes of U.S. registry would be affected by this AD. Some of these airplanes are currently equipped with a means of providing a visual annunciation of electrical power loss to the takeoff warning system and may not require modification to comply with this proposed AD. The design alternative selected by an operator will determine the cost of complying with the requirements of this proposed AD. The highest cost option is expected to be the installation of a voltage sensing device and a warning light. For this option, it is estimated that it would take approximately 20 manhours per airplane to accomplish the required action, that material cost would be approximately $250 per airplane, and that the average labor cost would be $40 per manhour. It is estimated that this modification could be incorporated during normal aircraft maintenance with no additional aircraft down time required. Based on these figures, the total cost impact of this AD to U.S. operators is estimated to be

$3,883,950, if all operators were to install a voltage sensing device/warning light modification.

The regulations proposed herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordanced with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For these reasons, the FAA has determined that this document: (1) Involves a proposed regulation which is not major under Executive Order 12291 and (2) is not a significant rule pursuant to the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and it is further certified under the criteria of the Regulatory Flexibility Act that this proposed rule, if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities because few, if any, of the affected model airplanes are operated by small entities. A copy of a draft regulatory evaluation prepared for this action is contained in the regulatory docket.

List of Subjects in 14 CFR Part 39

Aviation safety, Aircraft.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend § 39.13 of Part 39 of the Federal Aviation Regulations (14 CFR 39.13) as follows:

1. The authority citation for Part 39 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421 and 1423; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983); and 14 CFR 11.89.

2. By adding the following new airworthiness directive:

Airbus Industries, Boeing, British Aerospace, Fokker, Lockheed, and McDonnell Douglas: Applies to Airbus Industries Models A300 and A310; Boeing Models 707, 720, 727, 737, 747, 757, and 767; British Aerospace Models BAe 146 and BAC 1–11; Fokker Model F28; Lockheed Model L–1011; and McDonnell Douglas Models DC–8, DC–9 (includes Model DC–9–80 series and Model MD–88), and DC–10/KC–10 series airplanes, certificated in any category. Compliance required as indicated, unless previously accomplished.

To prevent an unannounced electrical power loss to the takeoff warning system and a subsequent takeoff attempt with the airplane in an unsafe takeoff configuration, accomplish the following:

A. for airplanes without a visual annunciation of electrical power loss to the takeoff warning system: Within 12 months after the effective date of this AD install a visual annunciation of electrical power loss to the takeoff warning system which is visible to the flight crew and which does not require flight crew action to display it, in a manner approved by:

a. Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region, for Boeing series airplanes; or

b. Manager, Los Angeles Aircraft Certification Office, FAA, Northwest Mountain Region, for McDonnell Douglas and Lockheed airplanes; or

c. Manager, Standardization Branch, ANM–113, FAA Northwest Mountain Region, for Airbus, British Aerospace, and Fokker series airplanes.

B. For airplanes currently equipped with a means of providing visual annunciation of electrical power loss to the takeoff warning system: Within 60 days after the effective date of this AD, submit a description of this means to the appropriate office specified in paragraph A., above, for a determination of compliance with the requirements of this AD.

1. If the FAA determines that the airplane's current means of providing visual annunciation of electrical power loss to the takeoff warning system is in compliance with the requirements of this AD, no further action is necessary.

2. If the FAA determines that the airplane's current means of providing visual annunciation of electrical power loss to the takeoff warning system is not in compliance with the requirements of this AD, within 12 months after the date of the FAA's finding, modify the means of providing visual annunciation of electrical power loss to the takeoff warning system to meet the requirements of this AD, in a manner approved by the appropriate office specified in paragraph A., above.

C. An alternate means of compliance or adjustment of the compliance time, which provides an acceptable level of safety, may be used when approved by the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region (for Boeing series airplanes); Manager, Los Angeles Aircraft Certification Office, FAA, Northwest Mountain Region (for McDonnell Douglas or Lockheed series airplanes); or Manager Standardization Branch, ANM–113, FAA, Northwest Mountain Region (for Airbus, British Aerospace, or Fokker series airplanes); as appropriate.

Note: The request should be forwarded through an FAA Principal Maintenance Inspector (PMI), who may add any comments and then send it to the Manager of the appropriate office indicated above.

D. Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate airplanes to a base in order to comply with the requirements of this AD.

Issued in Seattle, Washington, on November 22, 1988.

Darrell M. Pederson,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 88–27671 Filed 11–28–88; 2:29 pm]

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14 CFR Part 39

[Docket No. 88–NM–145–AD]

Airworthiness Directives; McDonnell Douglas Model DC–8 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of Proposed Rulemaking (NPRM).

SUMMARY: This notice proposes a new airworthiness directive (AD), applicable to McDonnell Douglas DC–8 series airplanes, which would require the incorporation of horizontal stabilizer position into the existing takeoff configuration warning system. This proposal is prompted by an FAA review of large turbofan/turbojet transport airplanes' takeoff configuration warning systems, which revealed that the horizontal stabilizer position was not monitored by the Model DC–8 takeoff warning system. This condition, if not corrected, could lead to an airplane taking off in the wrong takeoff configuration.

DATES: Comments must be received no later than January 23, 1989.

ADDRESS: Send comments on the proposal in duplicate to Federal Aviation Administration, Northwest Mountain Region, Transport Airplane Directorate, ANM–103, Attention: Airworthiness Rules Docket No. 88–NM–145–AD, 17900 Pacific Highway South, C–68966, Seattle, Washington 98168.

FOR FURTHER INFORMATION CONTACT: Mr. Richard S. Saul, Aerospace Engineer, Systems and Equipment Branch, ANM–130L, FAA, Northwest Mountain Region, Los Angeles Aircraft Certification Office, 3229 E. Spring Street, Long Beach, California 90806; telephone (213) 988–5342.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket number and be submitted in duplicate to

the address specified above. All communications received on or before the closing date for comments specified above will be considered by the Administrator before taking action on the proposed rule. The proposals contained in this Notice may be changed in light of the comments received. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA/public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Availability of NPRM

Any person may obtain a copy of this Notice of Proposed Rulemaking (NPRM) by submitting a request to the FAA, Northwest Mountain Region, Transport Airplane Directorate, ANM-103, Attention: Airworthiness Rules Docket No. 88-NM-145-AD, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168.

Discussion: Investigation of an accident that occurred shortly after takeoff, involving a jet transport airplane, revealed that the airplane was not configured properly for takeoff. This prompted the FAA to establish a special FAA team to conduct a general review of takeoff configuration warning systems installed in large turbofan/turbojet transport airplanes. All of the systems reviewed, except that of the McDonnell Douglas Model DC-8 series airplanes, were equipped to monitor all of the inputs necessary to establish a correct takeoff configuration for the airplane. The Model DC-8 series airplanes were not equipped to monitor the horizontal stabilizer position in the takeoff warning system. This condition, if not corrected, could allow a takeoff attempt with the airplane's horizontal stabilizer in the wrong position, and no warning to the flight crew. Further, an incorrect stabilizer position could lead to difficulties in rotational control: early, unexpected self-rotation, heavy rotational forces, or inability to rotate.

The team also reviewed accidents in the worldwide jet fleet which have involved incorrect takeoff configuration. This review indicated that Model DC-8 airplanes were involved in 3 of the 12 accidents of this type which occurred between 1958 and 1987. The cause of all three accidents was determined to be due to improper horizontal stabilizer position. Because of the disproportionate number of takeoff accidents that have occurred involving Model DC-8 airplanes as a result of a horizontal stabilizer out-of-trim condition, the team recommended, and the FAA has determined, that the Model DC-8 takeoff warning system must be modified to incorporate horizontal stabilizer position.

Since this condition is likely to exist on other airplanes of this same type design, an AD is proposed which would require modification of the Model DC-8 takeoff warning system to incorporate horizontal stabilizer position into the existing design. The FAA proposes that the modification be incorporated within 12 months from the effective date of the final rule.

There are approximately 349 Model DC-8 series airplanes in the worldwide fleet. It is estimated that 141 airplanes of U.S. registry would be affected by this AD, that it would take approximately 250 manhours per airplane to accomplish the required actions, and that the average labor cost would be $40 per manhour. The material cost is estimated to be approximately $70,000 per airplane (this figure was supplied to FAA by the airplane manufacturer and is based on approximate costs associated with a recommended design that includes extensive modification of the mechanical stabilizer and installation of a computer). Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be $11,280,000.

The regulations proposed herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would have have sufficient Federalism implications to warrant the preparation of a Federalism Assessment.

For these reasons, the FAA has determined that this document: (1) Involves a proposed regulation which is not major under Executive Order 12291 and (2) is not a significant rule pursuant to the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and it is further certified under the criteria of the Regulatory Flexibility Act that this proposed rule, if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities because few, if any, Model DC-8 series airplanes are operated by small entities. A copy of a draft regulatory evaluation prepared for this action is contained in the regulatory docket.

List of Subjects in 14 CFR Part 39

Aviation safety, Aircraft.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Administration proposes to amend Section 39.13 of Part 39 of the Federal Aviation Regulations (14 CFR 39.13) as follows:

1. The authority citation for Part 39 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421 and 1423; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); and 14 CFR 11.89.

2. By adding the following new airworthiness directive:

McDonnell Douglas: Applies to McDonnell Douglas Model DC-8 series airplanes, certificated in any category. Compliance required as indicated, unless previously accomplished.

To prevent takeoff with the airplane horizontal stabilizer in the wrong position and no warning from the takeoff warning system, accomplish the following:

A. Within 12 months after the effective date of this airworthiness directive (AD), incorporate into the takeoff warning system installed on the airplane a horizontal stabilizer position input which is approved by the Manager, Los Angeles Aircraft Certification Office, FAA, Northwest Mountain Region.

B. An alternate means of compliance or adjustment of the compliance time, which provides an acceptable level of safety, may be used when approved by the Manager, Los Angeles Aircraft Certification Office, FAA, Northwest Mountain Region.

Note: The request should be forwarded through an FAA Principal Maintenance Inspector (PMI), who may add any comments and then send it to the Manager, Los Angeles Aircraft Certification Office.

C. Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate airplanes to a base in order to comply with the requirements of this AD.

Issued in Seattle, Washington, on November 22, 1988.

Darrell M. Pederson,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 88-27672 Filed 11-28-88; 2:29 pm]

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